



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

| | | | | | |
|---------------------------------|---|----|---|------------------------|-------------------|
| Substitute for form 1449A/B/PTO | | | | Complete If Known | |
| | | | | Application Number | 10/506748 |
| | | | | Filing Date | September 3, 2004 |
| | | | | First Named Inventor | Alan Martin Birch |
| | | | | Art Unit | 1615 |
| | | | | Examiner Name | Not Yet Assigned |
| Sheet | 1 | of | 3 | Attorney Docket Number | ASZD-P01-662 |

| U.S. PATENT DOCUMENTS | | | | | |
|-----------------------|-----------------------|--|------------------|---|---|
| Examiner Initials* | Cite No. ¹ | Document Number | Publication Date | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | | Number-Kind Code ² (if known) | MM-DD-YYYY | | |
| AM | AA | US-2004/0002495-A1 | 01-01-2004 | Philip Sher | |
| | AB | US-3,706,810 | 12-19-1972 | AMERICAN CYANAMID | |
| | AC | US-4,599,198 | 07-08-1986 | DENNIS J. HOOVER | |
| | AD | US-4,668,769 | 05-26-1987 | DENNIS J. HOOVER | |
| | AE | US-4,720,503 | 01-19-1988 | BRUCE E. WITZEL | |
| | AF | US-4,751,231 | 06-14-1988 | WASYL HALCZENKO | |
| | AG | US-4,786,641 | 11-22-1988 | SIEGFRIED GOLDMANN | |
| | AH | US-4,794,120 | 12-27-1988 | PHILIPPE MANOURY | |
| | AI | US-5,863,903 | 01-26-1999 | KARSTEN LUNDGREN | |
| AM | AJ | US-5,998,463 | 12-07-1999 | BERNARD HULIN | |

| FOREIGN PATENT DOCUMENTS | | | | | |
|--------------------------|-----------------------|---|--------------------------------|---|--|
| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | | Country Code ³ -Number ⁴ -Kind Code ⁵ (if known) | | | |
| AM | BA | WO-00/42213 | 07-20-2000 | The Research Foundation of State University of New York | |
| | BB | WO-00/47206 | 08-17-2000 | Novo Nordisk | |
| | BC | WO-01/05954 | 01-25-2001 | Isis Pharmaceuticals, Inc. | |
| | BD | WO-01/23347 | 04-05-2001 | Novo Nordisk | |
| | BE | WO-01/32654 | 05-10-2001 | Societe de Conseils de Recherches et D'Applications Scientifiques | |
| | BF | WO-01/52825 | 07-26-2001 | Novartis-Erfindungen Verwaltungsgesellschaft M.B.H. | |
| | BG | WO-01/68055 | 09-20-2001 | Pfizer Products Inc. | |
| | BH | WO-01/68092 | 09-20-2001 | Pfizer Products Inc. | |
| | BI | WO-01/68603 | 09-20-2001 | Bristol-Myers Squibb Co. | |
| | BJ | WO-01/94300 | 12-13-2001 | Aventis Pharma Deutschland | |
| | BK | WO-01/96311 | 12-20-2001 | Bristol-Myers Squibb Company | |
| | BL | WO-01/96347 | 12-20-2001 | Bristol-Myers Squibb Company | |
| | BM | WO-02/080844 | 10-17-2002 | Genzyme Corporation | |
| | BN | WO-02/096864 | 12-05-2002 | Aventis Pharma Deutschland GmbH | |
| | BO | WO-02/098348 | 12-12-2002 | Eli Lilly and Company | |
| | BP | WO-02/26714 | 04-04-2002 | Takeda Chemical Industries, Ltd. | |
| | BQ | WO-02/34718 | 05-02-2002 | Richter Gedeon Vegyeszeti Gyár Rt. | |
| | BR | WO-03/037864 | 05-08-2003 | Japan Tobacco Inc. | |
| | BS | EP-0846464 | 06-10-1998 | Pfizer Inc. | |
| | BT | EP-0884050 | 12-16-1998 | Novo Nordisk | |
| | BU | EP-0978279 | 02-09-2000 | Pfizer Products Inc. | |
| | BV | EP-1088824 | 01-07-2004 | Pfizer Products Inc. | |
| | BW | EP-1125580 | 08-22-2001 | Pfizer Products Inc. | |
| | BX | EP-1134213 | 09-19-2001 | Pfizer Inc. | |
| | BY | EP-1136071 | 09-26-2001 | Pfizer Products Inc. | |

Examiner Signature: *AM* Date Considered: *12/12/05*



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

| | | | | | |
|---------------------------------|---|----|---|------------------------|-------------------|
| Substitute for form 1449A/B/PTO | | | | Complete If Known | |
| | | | | Application Number | 10/506748 |
| | | | | Filing Date | September 3, 2004 |
| | | | | First Named Inventor | Alan Martin Birch |
| | | | | Art Unit | 1615 |
| | | | | Examiner Name | Not Yet Assigned |
| Sheet | 2 | of | 3 | Attorney Docket Number | ASZD-P01-662 |

| | | | | | |
|------------|-----|----------------|------------|---|--|
| (initials) | BZ | EP-1145717 | 05-12-2004 | Pfizer Products Inc. | |
| | BA1 | EP-1149580 | 02-21-2001 | Pfizer Products Inc. | |
| | BB1 | EP-1177791 | 07-27-2001 | Pfizer Products Inc. | |
| | BC1 | ES-2081747 | 03-01-1996 | Esteve Labor DR | |
| | BD1 | DE-4445968 | 06-27-1996 | Bayer AG | |
| | BE1 | WO-93/25574 | 12-23-1993 | Pfizer Inc. | |
| | BF1 | WO-95/24391 | 09-14-1995 | Novo Nordisk | |
| | BG1 | WO-96/39384 | 12-12-1996 | Pfizer, Inc. | |
| | BH1 | WO-96/39385 | 12-12-1996 | Pfizer Inc. | |
| | BI1 | WO-97/09040 | 03-13-1997 | Novo Nordisk | |
| | BJ1 | WO-97/31901 | 09-04-1997 | Mikael Bols | |
| | BK1 | WO-97/45425 | 12-04-1997 | Fujisawa Pharmaceutical Co., Ltd. | |
| | BL1 | WO-98/27108 | 06-25-1998 | Fuji-Sawa Pharmaceutical Co., Ltd. | |
| | BM1 | WO-98/40353 | 09-17-1998 | Novo Nordisk | |
| | BN1 | WO-98/50359 | 11-12-1998 | Novo Nordisk | |
| | BO1 | WO-99/26659 | 06-03-1999 | Pfizer Products Inc. | |
| | BP1 | WO-99/36393 | 07-22-1999 | Tanabe Seiyaku Co., Ltd. | |
| | BQ1 | JP 2001 089368 | | | |
| | BR1 | DD 200740 | 06-08-1983 | Gewald | |
| | BS1 | EP 697403 | 02-21-1996 | Sanofi | |
| | BT1 | JP 2001 206856 | 07-31-2001 | Pfizer Prod. Inc. | |
| | BU1 | JP 021247565 | 05-14-1990 | Hanawa Netsuden Kinzoku KK Toray Ind. Inc. | |
| | BV1 | JP 04179949 | 06-26-1992 | | |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

| NON PATENT LITERATURE DOCUMENTS | | | | | |
|---------------------------------|-----------------------|---|--|-----------------|----------------|
| Examiner Initials | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | | | T ² |
| (initials) | CA | Birch, A., et al., "Novel Thienopyrrole Glycogen Phosphorylase Inhibitors: In Vitro SAR and Crystallographic Studies," Poster, AstraZeneca UK, CVGI Research, Mereside, Alderley Park, Macclesfield, Cheshire. | | | |
| | CB | Crochet, R.A., et al., "Synthesis of Substituted Thieno[2,3-b] pyrroles," Vol. 11, 143-150 (April 1974). | | | |
| | CC | Freeman, S., et al., "Effect of Glucose on Rat and Human Liver Glycogen Phosphorylase Activity and Potency of a Glycogen Phosphorylase Inhibitor," Diabetes, 52, Supp., 1470-P, A340. | | | |
| | CD | Hartman, G.D., et al., "The Synthesis of 5-Alkylaminomethylthieno[2,3-b]Pyrrole-5-Sulfonamides," Heterocycles, 29(10):1943-1949 (1989). | | | |
| | CE | Hoover, D.J., et al., "Indole-2-carboxamide Inhibitors of Human Liver Glycogen Phosphorylase," J. Med. Chem., 41:2934-2938 (1998). | | | |
| | CF | Hudson, S., et al., "The effect of a glycogen phosphorylase inhibitor upon muscle fatigue in anaesthetised rats," J. Physiol., 539:52-53 (2002). | | | |
| | CG | Jakobsen, P., et al., "Iminosugars: Potential Inhibitors of Liver Glycogen Phosphorylase," | | | |
| Examiner Signature | <i>AMJem</i> | | | Date Considered | 4/2/05 |

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.



| | | | | | |
|---------------------------------|---|----|---|------------------------|-------------------|
| Substitute for form 1449A/B/PTO | | | | Complete If Known | |
| | | | | Application Number | 10/506748 |
| | | | | Filing Date | September 3, 2004 |
| | | | | First Named Inventor | Alan Martin Birch |
| | | | | Art Unit | 1615 |
| | | | | Examiner Name | Not Yet Assigned |
| Sheet | 3 | of | 3 | Attorney Docket Number | ASZD-P01-662 |

| | | | |
|-----------|----|---|--|
| | | Bioorganic Med. Chem., 9:733-744 (2001). | |
| <i>OM</i> | CH | Martin, W.H., et al., "Discovery of a human liver glycogen phosphorylase inhibitor that lowers blood glucose in vivo," PNAS, 95:1776-1781 (Feb. 1998). | |
| | CI | McCormack, J.G., et al., "Pharmacological Approaches to Inhibit Endogenous Glucose Production as a Means of Anti-diabetic Therapy," Curr. Pharmaceutical Design, 7:1451-1474 (2001). | |
| | CJ | Oikonomakos, N.G., et al., "Allosteric inhibition of glycogen phosphorylase alpha by the potential antidiabetic drug 3-isopropyl 4-(2-chlorophenyl)-1,4-dihydro-1-ethyl-2-methyl-pyridine-3,5,6-tricarboxylate," Protein Sci., 8:1930-1945 (1999). | |
| | CK | Rath, V.L. et al., "Activation of Human Liver Glycogen Phosphorylase by Alteration of the Secondary Structure and Packing of the Catalytic Core," Mol. Cell, 6:139-148 (July 2000). | |
| | CL | Rosauer, K.G., et al., "Novel, 3,4-Dihydroquinolin-2(1H)-one Inhibitors of Human Glycogen Phosphorylase a," Bioorganic & Medicinal Chemistry Letters, 13:4385-4388 (2003). | |
| | CM | Soman, G., et al. "Aromatic Compounds as Allosteric Inhibitors of Glycogen Phosphorylase beta," Biochimica et Biophysica Acta, 358:359-362 (1974). | |
| | CN | Soman, G., et al., "The Nature of the Binding Site for Aromatic Compounds in Glycogen Phosphorylase beta," Biochem. J., 147:369-371 (1975). | |
| | CO | Teague, J., "Mobilisation of Tissue Glycogen Following Inhibition of Glycogen Phosphorylase in fa/fa Rat," Diabetes, 53, Supp. 1, A365, 1521-P | |
| | CP | Treadway, J.L., et al., "Glycogen phosphorylase inhibitors for treatment of type 2 diabetes mellitus," Exp. Opin. Invest. Drugs, 10(3):439-454 (2001). | |
| | CQ | Turnbull, A., et al., "Pharmacological Inhibition of Glycogen Phosphorylase (GP) Lowers Plasma Glucose in Rat Models of Type 2 Diabetes," Diabetes, 52, Supp., 1485-P, A343. | |
| <i>OM</i> | CR | Venkatarangan, P., et al., "Prediction of Ligand-REceptor Binding Thermodynamics by Free Energy Force Field Three-Dimensional Quantitative Structure-Activity Relationship Analysis: Applications to a Set of Glucose Analogue Inhibitors of Glycogen Phosphorylase," J. Med. Chem., 42:2169-2179 (1999). | |
| <i>OM</i> | CS | Vertigan, H., "Impact of cell glycogen content on modulation of hepatocyte glucose metabolism by pharmacological agents," Diabetes, 47, Supp., 589, A214. | |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.

| | | | |
|--------------------|---------------|-----------------|--------|
| Examiner Signature | <i>OMjeen</i> | Date Considered | 2/2/05 |
|--------------------|---------------|-----------------|--------|